

Differentiated Instruction Intensive Institute: Advanced Content & Application January 15, 2013 - January 16, 2013

B-1 **Assessment: Rigorous, Instructional, Varied, Frequent & Formative**

Rick Wormeli

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Assessment



**Rigorous, Instructional,
Varied, Frequent &
Formative
SDE 2013**

For further conversation about any of these topics:

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Check out the **FREE Website**
for **Perspective and**
Practicality on Assessment
and **Grading Issues!**

www.stenhouse.com/fiae

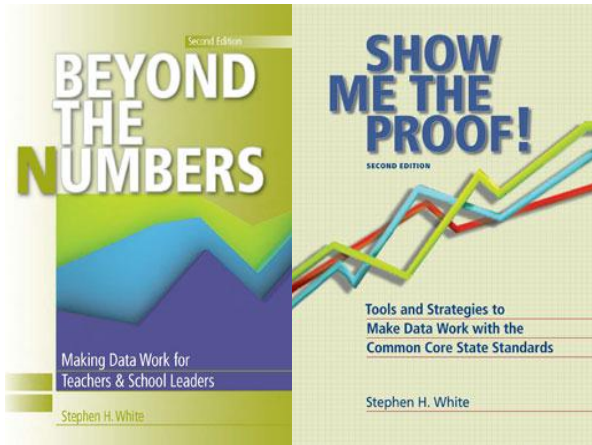
1. Two new, substantial study guides for *Fair Isn't Always Equal*
2. Q&A's - abbreviated versions of correspondence with teachers and administrators
3. Video and audio podcasts on assessment and grading issues
4. Testimonials from educators
5. Articles that support the book's main themes



Also, check out
 ASCD's *Education Leadership*
 November 2011 issue
 Vol. 69, Number 3
 Theme: Effective Grading Practices
 Single Issue: \$7.00, 1-800-933-2723
www.ascd.org

Among the articles:

- ☐ Susan M. Brookhart on starting the conversation about the purpose of grades
- ☐ Rick Wormeli on how to make redos and retakes work
- ☐ Thomas R. Guskey on overcoming obstacles to grading reform
- ☐ Robert Marzano on making the most of standards-based grading
- ☐ Ken O'Connor and Rick Wormeli on characteristics of effective grading
- ☐ Cathy Vatterott on breaking the homework grading addiction
- ☐ Alfie Kohn on why we should end grading instead of trying to improve it

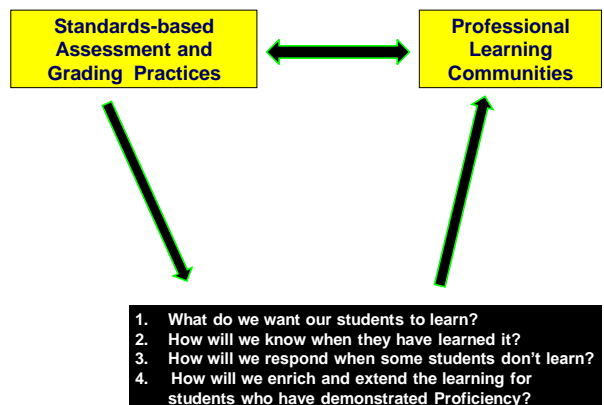


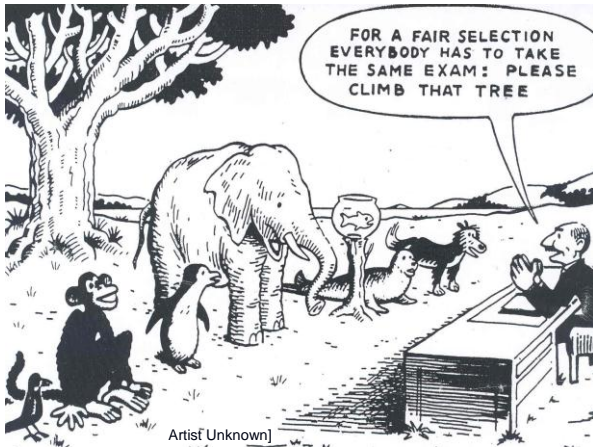
Researched-Based Strategies...

'Nice to have, but four cautions:

1. *Some educational research is done poorly. Claims based on some data are not justifiable. Some studies are intensely specific to subject and testing conditions and therefore cannot be used to justify applications to wider groups. Read the study's limitations at the end of the research. Consider who is doing the research and check for bias. Read the original study!*

2. *Not all that is wise and wonderful in education has a research base. Don't dump an idea because there's no formal research behind it. Anecdotal research can be helpful.*
3. *Even the most sound, research-based strategies can have wildly varying results when used in varying populations and circumstances.*
4. *Teachers must get much better at analyzing practice and adjusting lessons as a result of those reflections. To do this, they must be well-read in their field, and a full participant in their profession.*





**What is fair...
...isn't always equal.**

Consider:

- What should students know about our oceans before they graduate high school?
- Why is it important that students understand the idea of, "Pitch" in elementary music programs?
- When should students study the Bill of Rights, and why do you believe as you do?
- Which is more important to learn well: scientific method or qualitative vs quantitative analysis?
- If there's little time left in the school year, which topic in your English class listed below will receive the least emphasis?
Media literacy, rhetorical analysis, developing a strong writer's voice

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Define mastery.

Agree on a commonly accepted definition of mastery with those around you.

Write a clearly worded descriptor for excellent performance in any one of the following:

- Drawing a perfect circle
- Changing a tire
- Understanding the concept of volume
- Writing an effective lesson plan
- Appreciating the importance of the Treaty of Versailles
- Understanding the relationship among metabolism, exercise, and diet

What is Mastery?

“Tim was so learned, that he could name a horse in nine languages; so ignorant, that he bought a cow to ride on.”

Ben Franklin, 1750, Poor Richard's Almanac

“The student understands
fact versus opinion.”

Identify

Create

Revise

Manipulate

The better question is not,
“What is the standard?”

The better question is,
“What evidence will we
tolerate?”

What's the difference between **proficient** in the standard/outcome and **mastery** of the standard/outcome?

What does **exceeding** the standard mean?

Grade 8: Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. (From the Common Core Standards)

- ❑ What is the proper way to cite textual evidence in a written analysis?
- ❑ How much textual evidence is needed to support the student's claims?
- ❑ What if the student cites enough evidence but it's for an incorrect claim?
- ❑ What if the student is novel or stylistic in some way – will that be acceptable as long as he fulfills the general criteria?
- ❑ How specific does a student need to be in order to demonstrate being explicit?

- ❑ Is the analysis complete if he just makes the claim and cites evidence without a line or two to tie it all back to the theme?
- ❑ And what does, "...as well as inferences drawn from the text," mean? Does it mean students make inferences about the text and back them up with text references or outside-the-text references? Are students supposed to comment on quality of inferences within the text? Are they supposed to make inferences when analyzing the text?
- ❑ What if they can do it with one piece of text, but not another, or they can do it this week, but not another?
- ❑ What text formats will we require students to analyze in this manner?
- ❑ What will constitute, "Exceeds the Standard?"

From 5th Grade Common Core Standards:

Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

From 4th grade Common Core:

Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Choose the best assessment:

1. On the sphere provided, draw a latitude/longitude coordinate grid. Label all major components.
2. Given the listed latitude/longitude coordinates, identify the countries. Then, identify the latitude and longitude of the world capitals and bodies of water that are listed.
3. Write an essay about how the latitude/longitude system came to be.
4. In an audio-visual presentation, explain how our system of latitude and longitude would need to be adjusted if Earth was in the shape of a peanut? (narrow middle, wider edges)
5. Create a collage or mural that represents the importance of latitude and longitude in the modern world.

SIX + 1 Writing Traits Sample Rubric -- Ideas and Content

[From Northwest Regional Educational Laboratory, 101 SW Main, Suite 500, Portland, OR 97204]

5 = This paper is clear and focused. It holds the reader's attention. Relevant anecdotes and details enrich the central theme or storyline. Ideas are fresh and original. The writer seems to be writing from knowledge or experience and shows insight: an understanding of life and a knack for picking out what is significant. Relevant, telling, quality details give the reader important information that goes beyond the obvious or predictable. The writer develops the topic in an enlightening, purposeful way that makes a point or tells a story. Every piece adds something to the whole.

Looking at Assessment of Mastery

Example 1:

Solve: $(2x + 4)(x - 3) = ?$

Student's Response:

$$2x^2 + 4x - 6x - 12 = 2x^2 - 2x - 12$$

Is the student's response correct?

What can we conclude about the student's mastery of this topic?

Example 2 -- Directions to the Student: Circle at least one simile in the following paragraph:

"Yes, life was a Ferris Wheel to Betina, always circling, 'coming around again, and always leaving a small lump of something in the pit of her stomach as she descends from the uppermost view where she can look out across the world. It was always sad for her to come down the far side of something exciting in life, 'the ground rising to meet her like the unwanted rush of the tide she's helpless to turn away."

The student circles, "like the unwanted rush of the tide."

Did this student demonstrate mastery of similes?
What can we conclude about her understanding?

Is it Mastery?

- A student prepares an agar culture for bacterial growth by following a specific procedure given to her by her teacher. She calls the experiment a failure when unknown factors or substances contaminate the culture after several weeks of observation.
- A student accounts for potentially contaminating variables by taking extra steps to prevent anything from affecting an agar culture on bacterial growth she's preparing, and if accidental contamination occurs, she adjusts the experiment's protocols when she repeats the experiment so that the sources of the contamination are no longer a factor.

Is it Mastery?

- The student uses primarily the bounce pass in the basketball game regardless of its potential effectiveness because that's all he knows how to do.
- The student uses a variety of basketball passes during a game, depending on the most advantageous strategy at that moment in the game.

Non-mastery...

- The students can match each of the following parts of speech to its definition accurately: noun, pronoun, verb, adverb, adjective, preposition, conjunction, gerund, and interjection.

...and Mastery

- The student can point to any word in the sentence and explain its role (impact) in the sentence, and explain how the word may change its role, depending on where it's placed in the sentence.



What is the standard of excellence when it comes to tying a shoe?

Now describe the evaluative criteria for someone who excels beyond the standard of excellence for tying a shoe. What can they do?

Consider Gradations of Understanding and Performance from Introductory to Sophisticated

Introductory Level Understanding:

Student walks through the classroom door while wearing a heavy coat. Snow is piled on his shoulders, and he exclaims, "Brrrrr!" From depiction, we can infer that it is cold outside.

Sophisticated level of understanding:

Ask students to analyze more abstract inferences about government propaganda made by Remarque in his wonderful book, *All Quiet on the Western Front*.

- Determine the surface area of a cube.
- Determine the surface area of a rectangular prism (a rectangular box)
- Determine the amount of wrapping paper needed for another rectangular box, keeping in mind the need to have regular places of overlapping paper so you can tape down the corners neatly
- Determine the amount of paint needed to paint an entire Chicago skyscraper, if one can of paint covers 46 square feet, and without painting the windows, doorways, or external air vents.

There's a big difference: What are we really trying to assess?

- "Explain the second law of thermodynamics" vs. "Which of the following situations shows the second law of thermodynamics in action?"
- "What is the function of a kidney?" vs. "Suppose we gave a frog a diet that no impurities – fresh organic flies, no pesticides, nothing impure. Would the frog still need a kidney?"
- "Explain Keynes's economic theory" vs. "Explain today's downturn in the stock market in light of Keynes's economic theory."

From, *Teaching the Large College Class*, Frank Heppner, 2007, Wiley and Sons

Let's try it, Part 1:

1. Record a standard you have to teach.
2. Identify at least two levels of sophisticated application, mental dexterity, divergent thinking, deeper/complex understanding above this performance level.
3. Share with your group and invite critique.

Accountable Talk

(p.23, *Checking for Understanding*, ASCD, 2007)

- Press for clarification – "Could you describe what you mean?"
- Require justification – "Where did you find that information?"
- Recognize and challenge misconceptions – "I don't agree because..."
- Demand evidence for claims – "Can you give me an example?"
- Interpret and use others' statements – "David suggested that...."

Working Definition of Mastery
(Wormeli)

Students have mastered content when they demonstrate a thorough understanding as evidenced by doing something substantive with the content beyond merely echoing it. Anyone can repeat information; it's the masterful student who can break content into its component pieces, explain it and alternative perspectives regarding it cogently to others, and use it purposefully in new situations.

Clarifying the Curriculum

- Identify our verbs.
- Practice making the intrinsic, extrinsic; the invisible, visible.
- Divide and conquer.
- Identify the standards that provide leverage.
- Share our thinking.
- Move from standards to evidence or outcome.

Let's try it, Part 2:

1. Record a standard you have to teach.
2. Identify the evidence of the standard you'll tolerate as an indicator of mastery.
3. Finally, identify criteria that would indicate, "almost mastery, but not quite."
4. Explain your thinking to your small group and invite their critique. Adjust/revise your thinking as warranted.

Prompt:

Write a well-crafted essay that provides an accurate overview of what we've learned about DNA in our class so far. You may use any resources you wish, but make sure to explain each of the aspects of DNA we've discussed.

Student's Response:

Deoxyribonucleic Acid, or DNA, is the blueprint for who we are. Its structure was discovered by Watson and Crick in 1961. Watson was an American studying in Great Britain. Crick was British (He died last year). DNA is shaped like a twisting ladder. It is made of two nucleotide chains bonded to each other. The poles of the ladder are made of sugar and phosphate but the rungs of the ladder are made of four bases. They are thymine, guanine, and cytosine, and adenine. The amount of adenine is equal to the amount of thymine (A=T). It's the same with cytosine and guanine (C=G).

(Continued on the next slide)

The sequence of these bases makes us who we are. We now know how to rearrange the DNA sequences in human embryos to create whatever characteristics we want in new babies – like blue eyes, brown hair, and so on, or even how to remove hereditary diseases, but many people think it's unethical (playing God) to do this, so we don't do it. When DNA unzips to bond with other DNA when it reproduces, it sometimes misses the re-zipping order and this causes mutations. In humans, the DNA of one cell would equal 1.7 meters if you laid it out straight. If you laid out all the DNA in all the cells of one human, you could reach the moon 6,000 times!

Conclusions from Sample DNA Essay Grading

The fact that a range of grades occurs among teachers who grade the same product suggests that:

- Assessment can only be done against commonly accepted and clearly understood criteria.
- Grades are relative.
- Teachers have to be knowledgeable in their subject area in order to assess students properly.
- Grades are subjective and can vary from teacher to teacher.
- Grades are not always accurate indicators of mastery.

What is the Role of Each One?

- Formative Assessment
- Summative Judgment
- Common Formative Assessment
- Standardized Assessments

Feedback vs Assessment

Feedback: Holding up a mirror to students, showing them what they did and comparing it what they should have done – There's no evaluative component!

Assessment: Gathering data so we can make a decision

Greatest Impact on Student Success:

Formative feedback

Two Ways to Begin Using
Descriptive Feedback:

- “Point and Describe”
(from *Teaching with Love & Logic*, Jim Fay, David Funk)
- “Goal, Status, and Plan for the Goal”
 1. Identify the objective/goal/standard/outcome
 2. Identify where the student is in relation to the goal (Status)
 3. Identify what needs to happen in order to close the gap

Let's try it, part 3:

1. Record a standard you have to teach.
2. Generate two different statements of descriptive feedback regarding different elements of students' performance using one or both of the templates given.
3. Share your descriptive feedback statements with your small group and invite their critique. Adjust/revise your thinking as warranted.

Item	Topic or Proficiency	Right	Wrong	Simple Mistake?	Really Don't Understand
1	Dividing fractions		✓		✓
2	Dividing Fractions		✓		✓
3	Multiplying Fractions		✓	✓	
4	Multiplying fractions	✓			
5	Reducing to Smplst trms	✓			
6	Reducing to Smplst trms	✓			
7	Reciprocals	✓			
8	Reciprocals		✓	✓	
9	Reciprocals		✓	✓	

Benefits of Students Self Assessing

- Students better understand the standards and outcomes
- Students are less dependent on teachers for feedback; they independently monitor their own progress
- Students develop metacognitive skills and adjust what they are doing to improve their work
- Students broaden learning when they see how peers approach tasks
- Students develop communication and social skills when required to provide feedback to others.

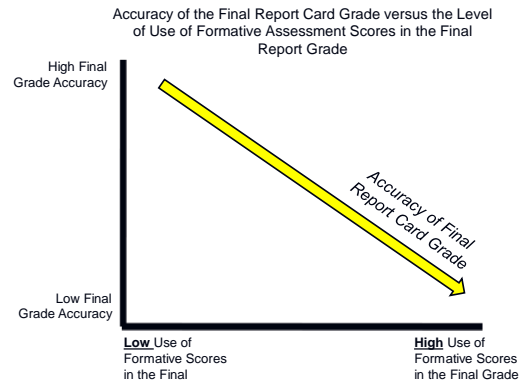
-- from Manitoba's *Communicating Student Learning*, 2008

Two Homework Extremes that Focus Our Thinking

- **If a student does none of the homework assignments, yet earns an "A" (top grade) on every formal assessment we give, does he earn anything less than an "A" on his report card?**
- **If a student does all of the homework well yet bombs every formal assessment, isn't that also a red flag that something is amiss, and we need to take corrective action?**

Be clear: We mark and grade against standards/outcomes, not the routes students take or techniques teachers use to achieve those standards/outcomes.

Given this premise, marks/grades for these activities can no longer be used in the academic report of what students know and can do regarding learner standards: maintaining a neat notebook, group discussion, class participation, homework, class work, reading log minutes, band practice minutes, dressing out in p.e., showing up to perform in an evening concert, covering textbooks, service to the school, group projects, signed permission slips, canned foods for canned food drive...



Assessment AS/FOR Learning

- Grades rarely used, if ever
- Marks and feedback are used
- Share learning goals with students from the beginning
- Make adjustments in teaching a result of formative assessment data
- Provide descriptive feedback to students
- Provide opportunities for student for self-and peer assessment

-- O'Connor, p. 98, Wormeli

Teacher Action	Result on Student Achievement
Just telling students # correct and incorrect	Negative influence on achievement
Clarifying the scoring criteria	Increase of 16 percentile points
Providing explanations as to why their responses are correct or incorrect	Increase of 20 percentile points
Asking students to continue responding to an assessment until they correctly answer the items	Increase of 20 percentile points
Graphically portraying student achievement	Increase of 26 percentile points

-- Marzano, CAGTW, pgs 5-6

Evaluating the Usefulness of Assessments

- What are your essential and enduring skills and content you're trying to assess?
- How does this assessment allow students to demonstrate their mastery?
- Is every component of that objective accounted for in the assessment?
- Can students respond another way and still satisfy the requirements of the assessment task? Would this alternative way reveal a student's mastery more truthfully?
- Is this assessment more a test of process or content? Is that what you're after?

**Great differentiated assessment
is never kept in the dark.**

**"Students can hit any target they can see
and which stands still for them."**

-- Rick Stiggins, Educator and Assessment expert

**If a child ever asks, "Will this be on the
test?".....we haven't done our job.**

Clear and Consistent Evidence

**We want an accurate portrayal of a
student's mastery, not something clouded by a
useless format or distorted by only one
opportunity to reveal understanding.**

**Differentiating teachers require accurate
assessments in order to differentiate
successfully.**

**Successful Assessments are Varied
and They are Done Over Time**

- Assessments are often snapshot-in-time, inferences of mastery, not absolute declarations of exact mastery
- When we assess students through more than one format, we see different sides to their understanding. Some students' mindmaps of their analyses of Renaissance art rivals the most cogent, written versions of their classmates.

This quarter, you've taught:

- 4-quadrant graphing
- Slope and Y-intercept
- Multiplying binomials
- Ratios/Proportions
- 3-dimensional solids
- Area and Circumference of a circle.

The student's grade: B

What does this mark tell us about the student's proficiency with each of the topics you've taught?

Unidimensionality – A single score on a test represents a single dimension or trait that has been assessed

Student	Dimension A	Dimension B	Total Score
1	2	10	12
2	10	2	12
3	6	6	12

Problem: Most tests use a single score to assess multiple dimensions and traits. The resulting score is often invalid and useless. -- Marzano, CAGTW, page 13

Set up your gradebook into two sections:

<u>Formative</u>	<u>Summative</u>
Assignments and assessments completed on the way to mastery or proficiency	Final declaration of mastery or proficiency

100 point scale or 4.0 Scale?

- A 4.0 scale has a high inter-rater reliability. Students' work is connected to a detailed descriptor and growth and achievement rally around listed benchmarks.
- In 100-point or larger scales, the grades are more subjective. In classes in which teachers use percentages or points, students, teachers, and parents more often rally around grade point averages, not learning.

Consider:

- Pure mathematical averages of grades for a grading period are inaccurate indicators of students' true mastery.
- A teacher's professional judgment via clear descriptors on a rubric actually increases the accuracy of a student's final grade as an indicator of what he learned.
- A teacher's judgment via rubrics has a stronger correlation with outside standardized tests than point or average calculations do.

(Marzano)

Sample Formative Assessments

Topic: Verb Conjugation

Sample Formative Assessments:

- Conjugate five regular verbs.
- Conjugate five irregular verbs.
- Conjugate a verb in Spanish, then do its parallel in English
- Answer: Why do we conjugate verbs?
- Answer: What advice would you give a student learning to conjugate verbs?
- Examine the following 10 verb conjugations and identify which ones are done incorrectly.

Sample Formative Assessments

Topic: Balancing Chemical Equations

Formative Assessments:

- Define reactants and products, and identify them in the equations provided.
- Critique how Jason calculated the number of moles of each reactant.
- Balance these sample, unbalanced equations.
- Answer: What do we mean by balancing equations?
- Explain to your lab partner how knowledge of stoichiometric coefficients help us balance equations
- Prepare a mini-poster that explains the differences among combination, decomposition, and displacement reactions.

Samples of Formative Assessment

- Solve these four math problems.
- What three factors led to the government's decision to...
- Draw a symbol that best portrays this book's character as you now understand him (her), and write a brief explanation as to why you chose the symbol you did.
- Record your answer to this question on your dry-erase board and hold it above your head for me to see.
- Prepare a rough draft of the letter you're going to write.
- What is your definition of...?
- Who had a more pivotal role in this historical situation, _____ or _____, and why do you believe as you do?

Samples of Formative Assessment

- Identify at least five steps you need to take in order to solve math problems like these.
- How would you help a friend keep the differences between amphibians and reptiles clear in his mind?
- Write a paragraph of 3 to 5 lines that uses a demonstrative pronoun in each sentence and circle each example.
- Play the F sharp scale.
- In a quick paragraph, describe the impact of the Lusitania's sinking
- Create a web or outline that captures what we've learned today about....

Additional Formative Assessment Ideas:

- "Reader's Theater" -- Turn text, video, lecture, field trip, etc. into script and perform it
- Virtual Metaphors (Graphic Organizers)
- Projects, dioramas, non-linguistic representations
- Multiple Choice questions followed by, "Why did you answer the way you did?"
- Correct false items on True-false tests.

3-2-1

- 3 – Identify three characteristics of Renaissance art that differed from art of the Middle Ages
 - 2 – List two important scientific debates that occurred during the Renaissance
 - 1 – Provide one good reason why "rebirth" is an appropriate term to describe the Renaissance
-
- 3 – List three applications for slope, y-intercept knowledge in the professional world
 - 2 – Identify two skills students must have in order to determine slope and y-intercept from a set of points on a plane
 - 1 – If (x_1, y_1) are the coordinates of a point W in a plane, and (x_2, y_2) are the coordinates of a different point Y, then the slope of line WY is what?

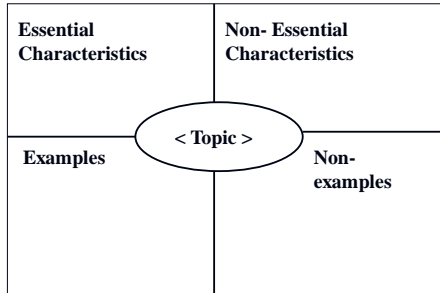
Exclusion Brainstorming

The student identifies the word/concept that does not belong with the others, then either orally or in writing explains his reasoning:

- Mixtures – plural, separable, dissolves, no formula
- Compounds – chemically combined, new properties, has formula, no composition
- Solutions – heterogeneous mixture, dissolved particles, saturated and unsaturated, heat increases
- Suspensions – clear, no dissolving, settles upon standing, larger than molecules

The Frayer Model

[Frayer, Frederick, Klausmeier, 1969]



Sorting Cards

Teach something that has multiple categories, like types of government, multiple ideologies, cycles in science, systems of the body, taxonomic nomenclature, or multiple theorems in geometry. Then display the categories.

Provide students with index cards or Post-it notes with individual facts, concepts, and attributes of the categories recorded on them. Ask students to work in groups to place each fact, concept, or attribute in its correct category. The conversation among group members is just as important to the learning experience as the placement of the cards, so let students defend their reasoning orally and often.

Change the Verb

Analyze...	Explain...
Construct...	Revise...
Decide between...	Argue against...
Why did...	Argue for...
Defend...	Examine...
Contrast...	Devise...
Identify...	Plan...
Classify...	Critique...
Define...	Rank...
Compose...	Organize...
Interpret...	Interview...
Expand...	Find support for...
Predict...	Develop...
Categorize...	Suppose...
Invent...	Imagine...
Recommend...	

Synecchics

(William J. Gordon)

"The joining together of different and apparently irrelevant elements," or put more simply, "Making the familiar strange."

1. Teach a topic to students.
2. Ask students to describe the topic, focusing on descriptive words and critical attributes.
3. Teacher identifies an unrelated category to compare to the descriptions in #2. (Think of a sport that reminds you of these words. Explain why you chose that sport.) Students can choose the category, too.
4. Students write or express the analogy between the two: *The endocrine system is like playing zones in basketball. Each player or gland is responsible for his area of the game.*

4-Square Synectics

1. Brainstorm four objects from a particular category (examples: kitchen appliances, household items, the circus, forests, shopping malls).
2. In small groups, brainstorm what part of today's learning is similar in some way to the objects listed.
3. Create four analogies, one for each object.

Example: *How is the human digestive system like each household item: sink, old carpet, microwave, broom*

Example: *How is the Pythagorean Theorem like each musical instrument: piano, drum set, electric guitar, trumpet?*

T-List or T-Chart: Wilson's 14 Points

Main Ideas	Details/Examples
Reasons President Wilson Designed the Plan for Peace	1.
	2.
	3.
Three Immediate Effects on U.S. Allies	1.
	2.
	3.
Three Structures/Protocols created by the Plans	1.
	2.
	3.

Summarization Pyramid



Great prompts for each line: *Synonym, analogy, question, three attributes, alternative title, causes, effects, reasons, arguments, ingredients, opinion, larger category, formula/sequence, insight, tools, misinterpretation, sample, people, future of the topic*

One-Word Summaries

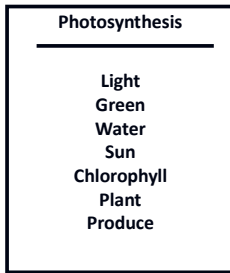
"The new government regulations for the meat-packing industry in the 1920's could be seen as an opportunity...."

"Picasso's work is actually an argument for...."

"NASA's battle with Rockwell industries over the warnings about frozen temperatures and the O-rings on the space shuttle were trench warfare...."

Basic Idea: *Argue for or against the word as a good description for the topic.*

Taboo Cards



Line-up

- Groups of students line up according to criteria. Each student holds an index card identifying what he or she is portraying.
- Students discuss everyone's position with one another -- posing questions, disagreeing, and explaining rationales.



Line-up

Students can line-up according to:

chronology, sequences in math problems, components of an essay, equations, sentences, verb tense, scientific process/cycle, patterns: alternating, category/example, increasing/decreasing degree, chromatic scale, sequence of events, cause/effect, components of a larger topic, opposites, synonyms

Statues (Body Sculpture)

Students work in small groups using every groupmember's body to symbolically portray concepts in frozen tableau.

Where does the learning occur?

“Awards”

(p. 68, *Checking for Understanding*, ASCD, 2007)

- Students recommend someone or something for an award that they or the teacher have created based on their understanding of the topic:

“Busiest Part of Speech” Award

“Most Likely Mistake We Make while Graphing Data” Award

“Most Important Literary Device in this Novel” Award

Quick Checks

- Dry-Erase Slates (or something similar): Students record responses on them and hold them above their heads
- Thumbs up, sideways, or down according to their level of understanding
- Fingers: 5 = Agree or Understand completely, 3 = Disagree but will accept the group’s decision or ‘still confused about one part, 1 = Disagree strongly or “I don’t understand yet”
- “Pisa Assessment” – Students lean left, sit up straight, or lean right according to their level of understanding
- ARS – Audience Response Systems (electronic devices students use to respond to teacher questions, tabulated on screen for students and teachers)

Putting Content into Rubric Form

Task Assigned: Solve $2\frac{1}{2}$ divided by $1\frac{1}{4}$.

Student’s Response: 2

100.0 Scale Grading approach:

If the answer was wrong, we’d look at how they worked the problem, but credit may or may not be given. The grade is based on the answer. If the student wrote, “1.5,” he would earn a zero for that problem, but more importantly, he would probably would not learn anything from his score.

4.0 Scale (Rubric) Grading Approach:

A rubric would’ve been given to the student prior to the test. Universal “look-fors” would have been identified for the student to demonstrate. For the 4.0 Standard of Excellence, the evaluative criteria might include:

- The student recognizes the need to convert the mixed numbers into improper fractions for ease in calculating.
- The student understands the need to divide fractions by multiplying by the reciprocal of the second fraction.
- The student multiplies the two improper fractions correctly.
- The student simplifies the answer into lowest terms.
- The student double-checks his work to make sure there were no careless errors.
- The student arrives at the correct response.

The student is given full credit for anything from this list that he or she does correctly. If the student seems to understand everything and follows all procedures except for one careless error that results in an incorrect response, he or she might earn a 3.5 or 3.0 instead of the 4.0, but it's not an absolute 0.0. This is a more accurate rendering of mastery, and it's significantly more useful to the teacher and the student. Anything that needs improvement is circled for the student on the rubric; he learns something from the scoring of the problem.

Rubric for the Historical Fiction Book Project – Holistic-style

5.0 Standard of Excellence:

- All material relating to the novel was accurate
- Demonstrated full understanding of the story and its characters
- Demonstrated attention to quality and craftsmanship in the product
- Product is a realistic portrayal of media used (examples: postcards look like postcards, calendar looks like a real calendar, placemats can function as real placemats)
- Writing is free of errors in punctuation, spelling, capitalization, and grammar
- Had all components listed for the project as described in the task

4.5, 4.0, 3.5, 3.0, 2.5, 2.0, 1.5, 1.0, .5, and 0 are awarded in cases in which students' projects do not fully achieve all criteria described for excellence. Circled items are areas for improvement.

Keep the important ideas in sight and in mind.

Two Rubric Ideas to Consider:

- Only give the fully written description for the standard of excellence. This way students won't set their sights on something lower.
- 4.0 rubrics carry so much automatic, emotional baggage, parents and students rarely read and internalize the descriptors. Make it easier for them: Use anything except the 4.0 rubric – 2.0, 3.0, 5.0, 6.0.

Guiding Questions for Rubric Design:

- Does the rubric account for everything we want to assess?
- Is a rubric the best way to assess this product?
- Is the rubric tiered for this student group's readiness level?
- Is the rubric clearly written so anyone doing a "cold" reading of it will understand what is expected of the student?
- Can a student understand the content yet score poorly on the rubric? If so, why, and how can we change the rubric to make sure it doesn't happen?

Designing a Rubric

1. Identify the essential and enduring content and skills you will expect students to demonstrate. Be specific.
2. Identify what you will accept as acceptable evidence that students have mastered content and skills. This will usually be your summative assessments and from these, you can create your pre-assessments.
3. Write a descriptor for the highest performance possible.

Designing a Rubric

- . Determine the label for each level of the achievement. Consider using three, four, or six levels instead of five.
5. “Test drive” the rubric with real student products. Remember, *there is no perfect rubric*.

Examples of Rubric Descriptor Labels:

- Proficient, capable, limited, poor
- Sophisticated, mature, good, adequate, developing, naïve
- Exceptional, strong, capable, developing, beginning, emergent
- exceeds standard, meets standard, making progress, getting started, no attempt
- exemplary, competent, satisfactory, inadequate, unable to begin effectively, no attempt

Caution about Labels:

Descriptor terms need to be parallel; it's important to keep the part of speech consistent. Use all adjectives or all adverbs, not a mixture of parts of speech.

Example of Poorly Done Scale:

Top, adequately, average, poorly, zero

Holistic or Analytic?




Task: Write an expository paragraph.

- **Holistic:** One descriptor for the highest score lists all the elements and attributes that are required.
- **Analytic:** Create separate rubrics (levels of accomplishment with descriptors) within the larger one for each subset of skills, all outlined in one chart. Examples for the paragraph prompt: Content, Punctuation and Usage, Supportive Details, Organization, Accuracy, and Use of Relevant Information.

Holistic or Analytic?

Task: Create a drawing and explanation of atoms.

- **Holistic:** One descriptor for the highest score lists all the features we want them to identify accurately.
- **Analytic:** Create separate rubrics for each subset of features –
 - Anatomical Features: protons, neutrons, electrons and their ceaseless motion, ions, valence
 - Periodic Chart Identifiers: atomic number, mass number, period
 - Relationships and Bonds with other Atoms: isotopes, molecules, shielding, metal/non-metal/metalloid families, bonds – covalent, ionic, and metallic.

Scale:	4	3	2	1
Criteria:				
Craftsmanship				
Accuracy				
Reasoning				
Preparation				
Presentation				

Scale refers to the numerical or one-word rating such as 4,3,2,1 or "Proficient, adequate, limited, poor." Criteria refers to the areas of assessment, such as craftsmanship, accuracy of information, reasoning skills, preparation, and presentation.

"Metarubric Summary"

To determine the quality of a rubric, examine the:

- **Content** -- Does it assess the important material and leave out the unimportant material?
- **Clarity** -- Can the student understand what's being asked of him, Is everything clearly defined, including examples and non-examples?
- **Practicality** -- Is it easy to use by both teachers and students?
- **Technical quality/fairness** -- Is it reliable and valid?
- **Sampling** -- How well does the task represent the breadth and depth of the target being assessed?

(p. 220). Rick Stiggins and his co-authors of *Classroom Assessment for Student Learning* (2005)

Great Idea: Ask Students to Examine Well-done Examples and Generate the Rubric

Qualities of Successful Reading Autobiographies as Identified by Students:

- Be honest: don't be afraid to tell the truth.
- Back up your opinions with examples of what you mean.
- Choose good words to express your meaning.
- Mention specific books by title.
- Explain what effect reading has on you.
- Explain which books you like and why you like them, as well as what books you don't like, and why you don't like them.
- Stick to the topic. Get to the point.
- Describe how your attitudes and reading abilities have changed since you were a child.
- Explain how you started reading.
- Mention someone who helped you learn to read or learn to enjoy books.
- Be real - Express yourself in a relaxed, personable way, like you were talking to the reader.
- Describe the particular situations or settings in which you learned or enjoyed reading.
- Don't be repetitive.
- Be organized: either chronologically (time order), or in sections.
- Use real life connections and experiences, if possible.
- Double check spelling, punctuation and grammar.
- Write in complete sentences.
- Have spunk.

Let's try it, Part 4:

1. Record a standard you have to teach.
2. Design a rubric based on the information presented so far that is student friendly and captures what you'll tolerate as evidence of mastery.
3. Explain to your group why it's an effective rubric, and invite their critique.

Great New Books on Feedback, Assessment, and Grading:

- *Elements of Grading*, Doug Reeves, Solution Tree, 2010
- *How to Give Feedback to Your Students*, Susan M. Brookhart, ASCD, 2008
- *Developing Performance-Based Assessments, Grades 6-12*, Nancy P. Gallavan, Corwin Press, 2009
- *Measuring Up: What Educational Testing Really Tells Us*, Daniel Koretz, Harvard University Press, 2008
- *Assessment Essentials for Standards-Based Education, Second Edition*, James H. McMillan, Corwin Press, 2008
- *Balanced Assessment, From Formative to Summative*, Kay Burke, Solution Tree, 2010

Recommended Reading on Assessment and Grading

- Arter, Judith A.; McTighe, Jay. *Scoring Rubrics in the Classroom : Using Performance Criteria for Assessing and Improving Student Performance*, Corwin Press, 2000
- Benjamin, Amy. *Differentiating Instruction: A Guide for Middle and High School Teachers*, Eye on Education, 2002
- Black, Paul; William, Dylan. 1998. "Inside the Black Box: Raising Standards through Classroom Assessment," *Phi Delta kappan*, 80(2): 139-148
- Borich, Gary D.; Tombari, Martin L. *Educational Assessment for the Elementary and Middle School Classroom (2nd Edition)*, Prentice Hall, 2003
- Brookhart, Susan. 2004. *Grading*. Upper Saddle River, NJ: Merrill/Prentice Hall

- Fisher, Douglas; Frey, Nancy. *Checking for Understanding: Formative Assessment Techniques for your Classroom*, ASCD, 2007
 - www.exemplars.com
 - Heacox, Diane, Ed.D. *Differentiated Instruction in the Regular Classroom, Grades 3 – 12*, Free Spirit Publishing, 2000
 - Lewin, Larry; Shoemaker, Betty Jean. *Great Performances: Creating Classroom-Based Assessment Tasks*, John Wiley & Sons, 1998
 - Marzano, Robert. *Transforming Classroom Grading*, ASCD 2001
 - Marzano, Robert. *Classroom Assessment and Grading that Work*, ASCD 2006
 - Marzano, Robert; McTighe, Jay; and Pickering, Debra. *Assessing Student Outcomes: Performance Assessment Using the Dimensions of Learning Model*, Association for Supervision and Curriculum Development, 1993
 - Millan, James H. *Classroom Assessment: Principles and Practice for Effective Instruction (2nd Edition)*, Allyn & Bacon, 2000
 - O'Connor, Ken; *How to Grade for Learning, 2nd Edition*, Thousand Oaks, CA, Corwin Press (3rd edition coming in 2009)
 - O'Connor, Ken; *A Repair Kit for Grading: 15 Fixes for Broken Grades*, ETS publishers, 2007
 - Popham, W. James; *Test Better, Teach Better: The Instructional Role of Assessment*, Association for Supervision and Curriculum Development, 2003
 - Popham, W. James; *Classroom Assessment : What Teachers Need to Know (4th Edition)*, Pearson Education, 2004
 - Rutherford, Paula. *Instruction for All Students*, Just ASK Publications, Inc (703) 535-5432, 1998
 - Stiggins, Richard J. *Student-Involved Classroom Assessment (3rd Edition)*, Prentice Hall, 2000
 - Wiggins, Grant; *Educative assessment: Assessment to Inform and Improve Performance*, Jossey-Bass Publishers, 1997
 - Grant Wiggins Web site and organization:
Center on Learning, Assessment, and School Structure (CLASS)
info@classnj.org www.classnj.org
gpw@classnj.org
 - Wormeli, Rick. *Fair Isn't Always Equal: Assessment and Grading in the Differentiated Classroom*. Stenhouse Publishers, 2006
- Three particularly helpful books I just read and I highly recommend:
- Keeley, Page. *Science Formative Assessment: 75 Practical Strategies for Linking Assessment, Instruction, and Learning*, Corwin Press, NSTA Press, 2008
 - Brookhart, Susan. *How to Assess Higher-Order Thinking Skills in your Classroom*, ASCD, 2010
 - *Alternatives to Grading Student Writing*, Stephen Tchudi, Editor, NCTE, 1997

**"I was put on earth by God
in order to accomplish a certain number
of things...
right now I am so far behind...
I will never die!"**

-Calvin and Hobbes

**- APS -
Assessment Philosophy Statement**

Write the first draft of your Assessment Philosophy Statement. 'Intended audience: students, their parents, your administration, the larger community.

- *What should be included?*
- *What should be excluded?*
- *How shall it be worded?*
- *What potential, "Yeah, but...?" questions can you anticipate and respond to them before they arise?*